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### Threats to Scotland's Red Squirrels

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French and other continental red squirrels tend to be darker and less red than the Scottish red squirrels. However, they are the same species.

# Threats to Scotland's red squirrels

## GLEN COUSQUER

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describes the plight of this species in the wake of a dominant grey squirrel population, as well as efforts to help

### A few key facts

#### Size comparison

The red squirrel has a typical body length of 19cm to 23cm and weighs between 250g and 340g – considerably smaller than the grey squirrel, with the latter measuring 25cm to 30cm and weighing in at between 400g and 800g.

#### Hibernation

Neither grey nor red squirrels hibernate over winter.

#### Competition

Grey squirrels aren't overly aggressive to reds and don't chase them away. Red squirrels are simply suffering gradual ecological replacement due to greys being more adaptable. The red squirrel is arguably Scotland's only native squirrel.

#### Population

Around 121,000 red squirrels are estimated to be left in Scotland – more than 75 per cent of the total UK population.

Image: Glen Cousquer Photography

veterinary **Times**

then be reviewed, providing an overview of the efforts being made to find more balanced answers to the red squirrel questions.

### Multitude of threats

Grey squirrels were able to outcompete red squirrels, and this meant red squirrel body mass – and their reproductive success rate in areas where they coexisted with greys – suffered (Gurnell et al, 2004). But what exactly does “outcompete” mean?

Several reasons have been identified.

It is suggested the grey squirrel's superior body size (see key facts) and feeding behaviour (they spend as much as 80 per cent of their time feeding on the ground, whereas reds spend about 30 per cent) means they can store more body fat.

This helps grey squirrels though the winter and ensures they enter the breeding season in better condition than reds.

In addition to this, greys evolved in the oak and hickory forests of the north-east US. This has left them better able to use the seeds (including acorns) typically found in such woodland. Red squirrels are best suited to pine forests and do well on their seeds, although these too can serve as food for greys.

It should also be noted the preferred habitat of grey squirrels is found across much of the UK, whereas the pine forests, which are the preferred habitat of reds, are found largely in Scotland, and a few areas of England and Wales.

The isolated remnants of the Caledonian pine forest mean red populations are more isolated than those of greys. Furthermore, the red – given its reluctance to spend time on the ground – is less able to migrate across the divide between suitable areas of woodland.

Thanks perhaps to their ability to cross fractured habitat, greys are able to colonise new areas at a rate of six miles per year. Lastly, it is also worth emphasising the red's preferred habitat supports only one squirrel per hectare, whereas greys can be found at a density of nine squirrels per hectare in their preferred habitat type. This has implications for breeding and population growth.

As if that wasn't enough, it is also suggested grey squirrels brought in diseases to which they had already developed resistance, but to which the red squirrels were naive. A particularly fatal threat comes from squirrel pox virus. This has been found in southern Scotland and, if it were to move northwards, would threaten Scotland's red squirrels in their heartland.

Given these advantages, it is hardly surprising the red squirrel is really feeling the pinch and we, here in Scotland, are mobilising to try to protect our native, much-loved red squirrel.

### From pest to emblematic icon

Humans, as a species, are not always great at appreciating our responsibilities as custodians of nature, or at least as a species whose ability to create imbalance in nature is significant.

How wise are we really in our judgements and actions? Our memories are certainly short. In our haste to blame the grey squirrel

**THE red squirrel (*Sciurus vulgaris*) is one of Scotland's “big five” must-see wild animals. Acrobatic, handsome, endearing and charismatic are all fitting adjectives to describe this iconic creature – so much so, a sighting is virtually guaranteed to feature among the many highlights of a Scotland trip, along with the few other parts of the UK that continue to provide them with sanctuary.**

The red squirrel can be found across much of Western Europe, but tends to appear darker on the continent. To see the reddest squirrels and enjoy them in their native pine forests, you are best advised to visit Scotland.

The red squirrel population has suffered terribly in the UK since the introduction of the larger grey squirrel (*Sciurus carolinensis*). This native of North America was brought into the UK in the late 19th and early 20th centuries as an attractive addition to parklands.

As is the case with many unwitting introductions, this proved to be a disaster. The grey squirrel was able to outcompete the smaller, more specialised red squirrel across much of its range.

Consequently, the red squirrel has been pushed back into its strongholds. These include certain islands that have remained grey squirrel-free, including Brownsea Island in Poole Harbour.

The red squirrel's stronghold, however, is Scotland, where approximately 75 per cent of the 160,000 left in the UK reside. This is where the battle to preserve the red squirrel from extinction is being conducted by a consortium of organisations, including the Scottish Wildlife Trust, Forestry Commission Scotland, Scottish Natural Heritage, Red Squirrel Survival Trust, Scottish Land and Estates, and The Royal Society for the Protection of Birds.

This article will give an overview of the multitude of threats facing the red squirrel, together with a critique of how we understand and interpret this story.

A historical perspective will be provided that will allow us to contextualise our actions. The proposed actions to protect the red squirrel will

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